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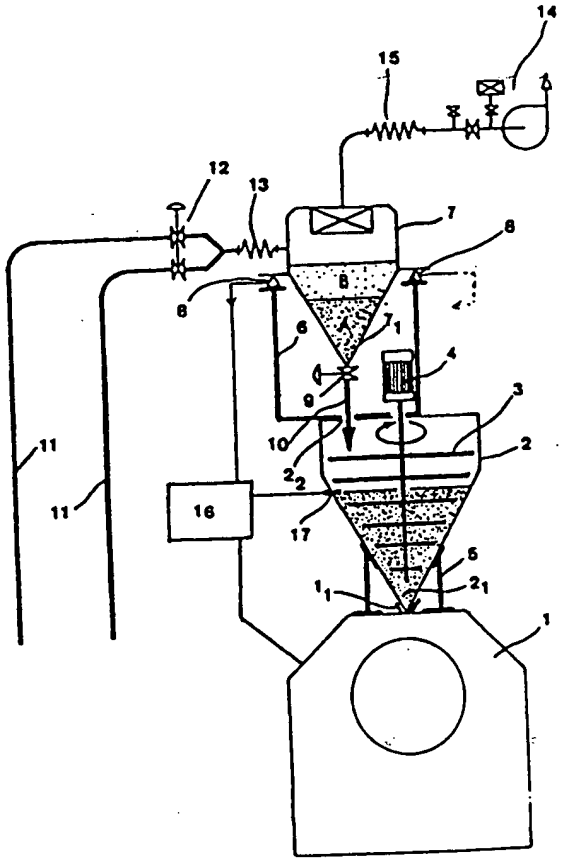
INSTALLATION FOR THE AUTOMATIC FEEDING OF A PROCESSING MACHINE, ESPECIALLY A PLASTICS PROCESSING MACHINE, WITH A HOMOGENEOUS MIXING OF A NUMBER OF PRODUCTS.

(57) Installation, characterized in that the processing machine (1) supports a first hopper (2) which contains a mixing element (3), this hopper being provided with a lower opening (2_1) for the discharge of the mixed product, which [lower opening] is connected to the feed opening (1_1) of the processing machine, and with an upper opening (2_2) for feeding this hopper (2) with the products to be mixed, this upper opening (2_2) being connected to a said second weighing hopper (7), which is supported by the processing machine by means of weighing sensors (8), this second hopper being connected to a number of conduits (11) for feeding in products via at least one flexible conduit (13).



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This machine is characterized in that the processing machine supports a first hopper which contains a mixing element, this hopper being provided with a lower opening for the discharge of the mixed product, which is connected to the feed opening of the processing machine, and with an upper opening for feeding this hopper with the products to be mixed, this upper opening being connected to a said second weighing hopper, which is supported by the processing machine by means of weighing sensors, this second hopper being connected to a number of conduits for feeding in products via at least one flexible conduit.

According to another feature of the present invention, the second weighing hopper is supported indirectly by the processing machine by means of the first hopper.

According to another feature of the present invention, the second hopper is connected via its upper end to a suction unit, which ensures the transfer by suction of the products to this hopper, and this connection comprises a flexible conduit.

The present invention is represented by way of a nonlimiting example on the only attached drawing, which is a schematic view of an embodiment of the installation according to the present invention.

Consequently, the object of the present invention is the production of an installation that is small in size and that is able to feed a processing machine by means of a mixture of homogeneous products, the components of this mixture being determined with precision.

These results are obtained according to the present invention by providing a hopper 2 directly on a processing machine 1, inside which [hopper] is provided a mixing element 3 which is rotated by an electric motor 4.

This processing machine comprises, for example, an extrusion machine that feeds a mold for the molding of objects made of plastic material, and the lower opening 2_1 of the hopper opens into the feed opening 1_1 of the processing machine so that the mixed products in the hopper 2 are introduced, in the homogeneously mixed state, directly into the processing machine 1.

Thus, the mixed products are prevented from being able to be separated due to their density, their granulometry or their different structures between the hopper 2 and the machine 1.

This hopper 2, which is supported by the processing machine 1 by means of mounts 5, supports itself by means of support elements 6, a second hopper 7 [is supported] by means of strain gauges 8.

The lower opening 7_1 of this second hopper 7 is provided with a valve 9 and a conduit 10 which opens into an upper opening 2_2 of the hopper 2. The connection between this conduit 10 and this opening 2_2 is made in a flexible manner, i.e., e.g., by means of a bellows to be able to carry out a precise weight measurement of the contents of the hopper 7 by means of the sensors 8.

This hopper 7 is fed by the various products to be mixed A and B by means of a number of conduits 11, which are provided with gate valves 12, these valves being, in the example shown, connected to the hopper 7 via a single, flexible conduit 13.

Also, in this installation, the hopper 7 is fed with various products via a pneumatic transfer, and the suction unit 14 is connected to the upper end of the hopper 7 via a flexible conduit 15 or the like.

Therefore, the installation according to the present invention makes it possible to feed the hopper 7 in succession with the different products to be mixed, the valve 12 being immediately activated once the weight of one or the other of the products or of their sum corresponds to the desired value.

These weights are measured, after calibration, by the weighing unit 16, which only authorizes the weighing via the sensors 8 when the operation of the machine 1 is not able to disturb the measurements of these values. Thus, if the

processing machine 1 feeds the molds, the weighing unit 16 is coupled to the processing machine in order to authorize the weighing by means of the sensors 8 irrelevant to the periods of closing and opening of the mold.

Also, this weighing unit is connected to a level control unit 17, which is intended to control the blocking device 9 in order to permit the flow of all the products introduced one after the other into the hopper 7 to the hopper 2 where they will be mixed homogeneously.

Therefore, the weighing unit 16 will only be able to perform a weighing operation apart from the periods of flow of the products to the hopper 2.

The installation according to the present invention thus makes it possible to carry out a precise management of the consumption of various products by each processing machine, while knowing the weight exactly and not the volume of each of the products being additionally introduced in the homogeneous state into the processing machine regardless of the nature and the state of the products to be mixed.

Claims

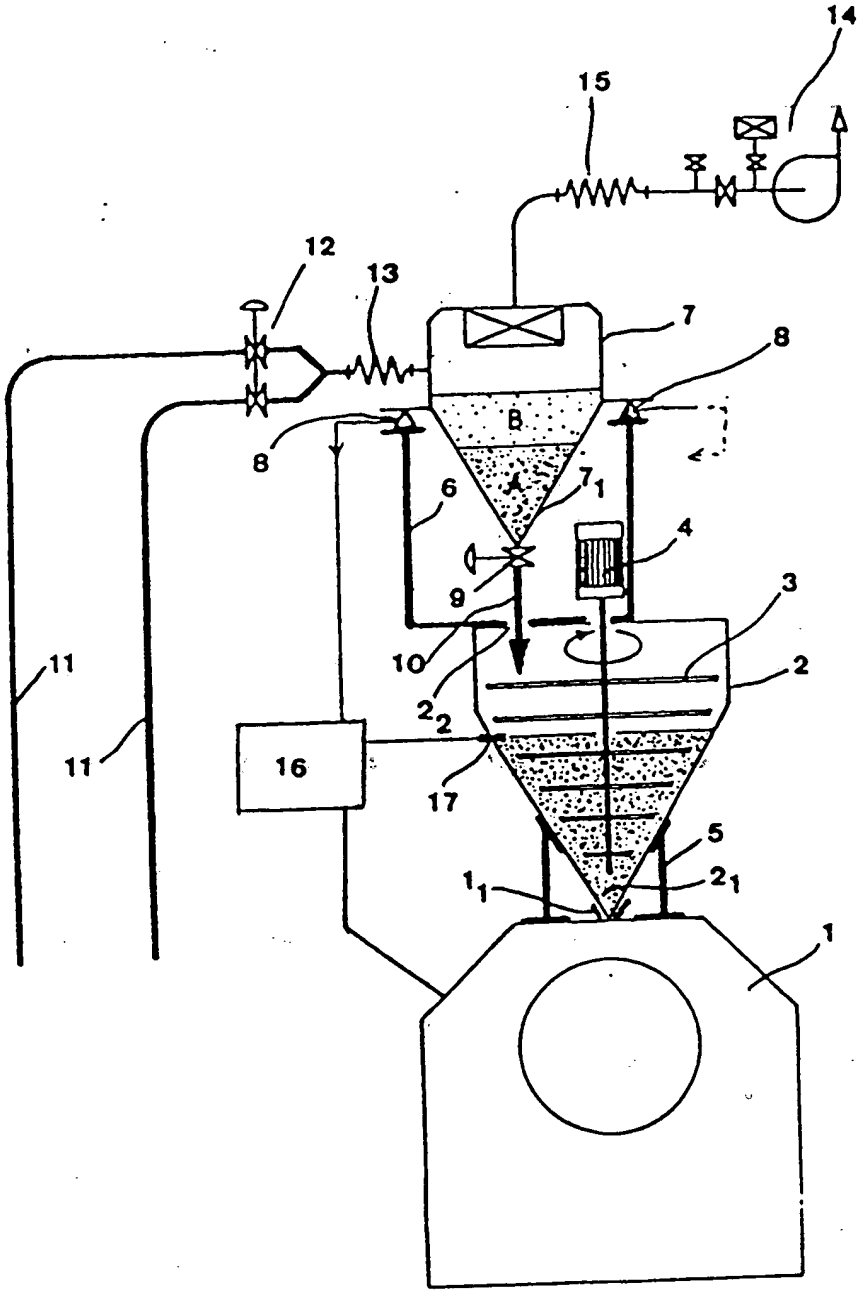
1) Installation for the automatic feeding of a processing machine, namely a said plastics processing machine, with a said homogeneous mixture of a number of products, which machine is characterized in that the said processing machine (1) supports a said first hopper (2) which contains a said mixing element (3), this hopper being provided with a said lower opening (2_1) for the discharge of the mixed product, which is connected to the said feed opening (1_1) of the said processing machine, and with a said upper opening (2_2) for feeding this hopper (2) with the products to be mixed, this said upper opening (2_2) being connected to a said second weighing hopper (7), which is supported by the said processing machine by means of said weighing sensors (8), and this said second hopper being connected to a number of said conduits (11) for feeding in products via at least one said flexible conduit (13).

2) Installation in accordance with claim 1, characterized in that the said second weighing hopper (7) is supported indirectly by the processing machine (1) by means of the said first hopper (2).

3) Installation in accordance with any of the above claims, characterized in that the said second hopper (7) is connected via its said upper end to a said suction unit (14), which ensures the transfer by suction of the products to this hopper, this connection comprising a said flexible conduit (15).

4) Installation in accordance with any of the above claims, characterized in that the said first hopper (2) is provided with a said level control element (17), which controls the activation of a said valve (9) for the flow of the weighed, unmixed products from the said second hopper (7) to the said first hopper (2).

5) Installation in accordance with any of the above claims, characterized in that the processing machine comprises a mold for the molding of products made of plastic material, and the said weighing sensors (8) are connected to a said weighing unit (16), which is connected to this said processing machine (1) in order to carry out the weighing apart from the periods of closing and opening of the said mold.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